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Simplicity in Landscape-art.

ONE thing that used to strike the traveler in Europe with a sense of novelty was the look of cultivation about the railway-stations, and few things in this country bear greater evidence of the advance in civilization among us than the improved aspect of these public thoroughfares. In fact, everywhere in the east we are conscious that the air of raw newness, of uncombed carelessness, is beginning to yield to the demand for order and comeliness of arrangements. The idea that system may be applied to even very limited portions of ground is gradually making way, and people are beginning to consider not so much what they shall plant as how they shall plant it so as to produce the best effect.

There is a taste for beauty latent among our people which thirsts for guidance, and only needs good examples to develop it properly. They eagerly seize upon such advantages of instruction as are afforded, and show their desire for new light in various ways. The village improvement societies are a step in the right direction, and the well-kept door-yards in small New England towns, the trig and thrifty air that pervades even the humblest homes, show that there, at least, the new ideas have taken root, and are ready for evolution. What is most needed now is to train and educate this love of the beautiful and befitting, by setting authoritatively before the public evidences of the right way to produce good effects in the management of trees and shrubbery, and to make public resorts serve to emphasize the important truths of simplicity and unity in design.

We do not have the advantage here of free access to the gardens and parks of royalty and nobility, as European peoples do, to educate our understanding. Such examples as the public has had in old times to copy have not always been of the best. There have been no great gardens like those of Versailles and of Luxembourg thrown open to everybody on festival days; it is only within the last twenty-five years that carefully planned parks have been accessible to the million, and that cities have decorated their pleasure-grounds with shrubs and flowers. How eagerly the people seize upon these advantages, how jealously they guard their rights to them we all know; but not every one recognizes the educational value of these well-kept open spaces, nor do we perhaps grasp the full force of the refining effect that the contemplation of good landscape-gardening has upon the minds of the masses, who are imperceptibly led by it to understand the value of composition in the arrangement of growing things, and thus are taught a lesson in beauty.

To love beauty is far easier than to know what beauty is. The most beautiful things are not, as many people think, within easy grasp of the understanding. Beauty of an unfamiliar kind does not always seem beauty at the first glance. It has to educate us to understand it, open our minds to its preciousness, and lift us to the higher level of its charm before we begin to recognize it. The Hermes and Aphrodite of the Greek mean nothing to the Australian black fellow, nor do they appeal profoundly to any untrained intelligence, for perfection in the human form is unfamiliar to the average eye, accustomed to look alone upon the face for beauty, with its ideas of figure outline warped by the conventionalities of fashion.

The greatest objects in nature—even Niagara itself—is disappointing to the visitor until he has dwelt for a space upon its borders, and has learned the full terror of its majesty. Day by day the torrent grows more imposing, its ceaseless roar more impressive, the sweep of foaming water more turbulent, the crisis of the great fall more tremendous. It is so with the glories of a mountain-region. One's first glimpse of the Alps may be awe-inspiring or commonplace, according to the atmosphere, but it is only a long sojourn among mighty hills that fully reveals the power they possess over the soul of man. No superficial view can reveal their secret. Alone with the humming of bees amid the Alpine roses, with snowy peaks upon peaks rising needle-like against the blue, and lonely eagles soaring slowly into the upper ether, one feels a stirring within him as of wings, and becomes conscious of that inward bursting of bonds which denotes mental growth. Then the mountain speaks to man, and the favored mortal learns a new lesson of beauty.

The truth, well established in literature, art and music, that any new departure has to create a taste for itself before it can be accepted, is equally recognizable in landscape-gardening, which may justly be ranked among the higher arts, since he who takes nature for his theme uses trees and flowers for his pigments, and is the greatest of all painters. What seems the easiest, and yet is perhaps the hardest to learn of all, is the lesson of simplicity. To accumulate is the natural instinct of man; to overcrowd both house and land; and yet neither within nor without does quantity produce quality, and the higher one's artistic sense develops, the more does he value space as an element of dignity and loveliness. The true value of a picture is best obtained when it hangs alone upon a wall. The beauty of a precious vase is lost in the confusion of a cabinet. The Venus of Milo, standing solitary in her curtained alcove in the Louvre, is more impressive than the gallery of other Venuses which leads up to her shrine. So may one obtain the strongest effect for a group of trees, or for one giant specimen considered by itself, if they are left to stand alone, in one great sweep of lawn, which shall emphasize by contrast every noble curve, every uplifted bough, and produce one salient point in a lovely picture.

A mass of foliage in a shrubbery, forming one continuous and graceful line of varied shades of green, interspersed with sprays of blossom, is finer than a spotted effect of numerous isolated bushes, however beautiful in themselves. A group of plants in a garden all of one kind is usually better than a mixture of different plants. A

pleasaunce should ever be a picture, and be treated with the same artistic care, not to spoil its unity or to muddle its lights and shadows, that the painter should show when dealing with his canvas. Tone, gradation, emphasis are as important in the garden as in the drawing. There should be a high light, a depth of darkness—a middle distance, a foreground and a perspective. This, as the Japanese show us, can be managed even in a tiny enclosure; but what the average gardener lacks is courage to destroy. It is only a master in landscape-construction who dares to cut a swathe through a forest, or fell a giant to improve a vista. Such a destroyer, as we have shown before, is looked upon with terror by the uninstructed, when he demands the sacrifice of some long-cherished Oak or Pine which has been an object of family pride for years. The flower-beds have always been in one spot, why should they be disturbed? A grandfather planted that Chestnut; there is a sentiment against cutting it down. It is obstructions of this kind that are encountered by him whose far-seeing eye looks into the future, sees the perfected picture with all its detail subordinate to one leading thought, and grows impatient at what seems to him irrelevant obstruction.

The first lesson of beauty, then, to be learned by the student is the lesson of simplicity and breadth. To this he must come by the hard road of sacrifice, giving up many a cherished prejudice, many an object long unwisely valued. When he has grasped this idea as of preëminent value, he will have made the first step in a true knowledge of the requirements of landscape-gardening as an art, and will have permanently mastered an elemental truth with regard to all artistic beauty.

A Bit of Wild Nature in Pennsylvania.

THE "Bear Meadows," in Centre County, Pennsylvania, have long enjoyed a local reputation among lovers of nature as one of those odd places so different from its surroundings as to excite great curiosity. It is simply a peat-bog, occupying, perhaps, a mile square of what, if the drainage and water-flow were better, would be a "kettle," in the hunters' vernacular. The surrounding ridges, though low, are ample enough to give a small, but very constant, stream, the outlet of which being impeded holds back the water, once, perhaps, as a small lake, but now silted and choked with peat, through which the sluggish dark-colored water slowly forces its way.

Such a bog, in a region where bogs and lakes are uncommon, almost unknown, has naturally been a marked spot in the topography of the neighborhood and a favorite and attractive place for hunting and fishing. To a naturalist the chief attraction is in the curious commingling of the flora. The centre is covered almost exclusively with the commoner and coarser Sedges, with here and there clumps of Alders and occasionally Cranberries. The peat is here over ten feet deep, and shakes perceptibly under the tread. The larger area, however, is the border of the marsh, over which is a vigorous growth of a great variety of trees, in marked contrast to the meagre selection afforded by the surrounding higher lands. Many species, too, have acquired unusual size, and though culled out more or less, the general effect is of the "forest primeval." Huge White Pines, Tulip Poplars and Red Maples are frequent. Black Spruces abound in certain places, and reach large dimensions, their dark spiry tops making a sky-line in sharp contrast with the other trees. In much smaller numbers, and seldom more than a foot in diameter, are the Balsam Firs. Locally, both species are called Tamarack, a curious misnomer, the occasion for which I have not been able to discover. Their small slender trunks have always been in great demand for flag-poles, hay-ladders, etc., and but few would have been left had the meadows been more accessible.

Of minor plants there are many to attract the visitor. Probably to most persons the Pitcher-plants are the most curious, since they grow nowhere else in the neighborhood. Bedded in the Sphagnum-moss they are perfectly at home, and grow vigorously. Gold-thread, the Painted Trillium and the Buck-bean (Menyanthes) are other characteristic marsh-plants of the north that are here. The latter seems quite out of its latitude. It is not abundant, and does not seem to be holding its own. In places the round-leaved Sundew is abundant, and so are the delicate little Star-flower (Trientalis) and the dwarf Cornel. The smaller Smilacinas and Clintonia borealis are frequent and very vigorous, and their symmetrical polished green leaves at once attract attention. Orchids are naturally sought for in such a place. Some are quite common, such as Cypripedium acaule and Habenaria ciliaris, both running up and into the drier ground, and often quite striking because of their abundance. Less commonly met with are H. tridentata, Listera cordata, Pogonia verticillata and Calopogon pulchellus. Still others would doubtless reward a careful search were one to take time at the proper season for them. It is slow and tiresome work to explore the tangled parts of the border and the drier hummocks. The thickets of Rhododendron are exceedingly dense, and when mixed with the common Green-brier (Smilax) are scarcely penetrable.

In these thickets were made the bear traps or pens, from which the name Bear Meadows is derived. In days gone by this was the great fascination the meadows had for the hunting fraternity. At some one of the numerous springs about the border was the favorite place to camp. Cooler, more soft and delicious water than came from these sand-stone springs nowhere existed, while the charm of a summer-night here under the stars was indescribable. Nowhere else did the air seem so balmy and invigorating, and that exquisite music, the sighing of the Pines, was seldom wanting.

About three years ago, in writing to *Forest Leaves*, I said that a lumber company had recently begun work hereabout, were building a tramway with which to reach the meadows, and were preparing to cut, as they expressed it, "everything down to the size of a stove-pipe." Thus far they have been cutting chiefly the Pitch Pine, which goes to the anthracite region for mine-supports or "prop," as it is called. They have now begun to penetrate the meadows, have put up a mill, and are sawing the larger timber. The best of the White Pine is cut up into bridge material, the poorer and refuse parts into shingles, pickets, etc., while the Spruce and Fir, so far, all goes to the pulp-mills. The illustration (page 319) shows one of the White Pines which have been felled, and gives the imagination an opportunity to picture the changes which a band of energetic choppers are likely to bring about after they have worked their will in a forest. The ground is more marshy here than the picture indicates. The tramway rests on slabs to keep it from settling, and horses are preferred to mules, because the smaller hoofs of the mules sink more easily in the soft footing.

The fear that fire would follow in their wake has in part been realized. Last year was the worst for many years, while this season there have been no fires at all.

Considering the marshy nature of the meadows themselves, it may be that even after being thoroughly worked over and littered with tops and rubbish, the swamp may escape a general conflagration. This would be fortunate, for, left again to Nature's tender care, it would in time be reclothed and renewed, and be, perhaps, to another generation what it has been to this—a place of unspeakable restfulness. Nature has here been left alone to do her perfect work, and the Bear Meadows are so closely walled in by mountain-ridges that the busy work-day world seems hundreds of miles away.

State College, Pa. *W. A. Buckhout.*

A Manufactory of Roses.

THE following translation of an article by M. Henry de Vilmorin, in *La Revue Horticole*, appeared in a recent number of the *Literary Digest*:

I have several times had occasion to visit the famous Park of Roses, at Nice. The flowers produced there are the most beautiful in the world.

Both banks of the Var are bordered by a line of hills of some height, which are prolonged as far as the sea. The hills on the left bank aid in protecting the whole plain of Nice from the north-west wind. Toward the southern extremity of these hills, on very rich, alluvial soil, is the Carras quarter, in which are the principal market gardens of Nice. In that quarter, also, a little higher up on the slope of the hill, is the Josephine Villa, or Park of Roses.

Here roses are cultivated exclusively for sale in winter as cut flowers. Out of the twenty-eight or thirty acres which the property comprises, about ten acres are devoted to the purpose of forcing the Rose-trees, and are covered with very numerous small greenhouses or extensive hot-bed frames, one or the other of these being always in use for furthering the production of the flowers. The total surface covered with glass exceeds 6,000 square metres, or an acre and a half.

Naturally, it is during the months of active sale, from

November to April, that the principal harvest occurs; but even in the spring and summer the very beautiful roses grown under shelter are in demand by the dealers. These roses are the only ones, or nearly the only ones, which show a purity of perfect tint, exempt on the outside petals from the discoloration, the veining and folds, which are caused by the bite of cold, too warm sun-strokes, or the prolonged action of humidity.

During the summer the movable sides of the greenhouses are taken away, and there remains only the glass roof which protects the flowers from the rain-storms.

The proprietor and founder of the establishment is Mr. Antoine Mari. It may be said that the most striking feature of his mode of cultivation is the simplicity of the means employed and their perfect adaptation to the end to be attained, which is to obtain an abundant and continued production of flowers without great expense and without exhausting the plants.

A Rose-bush, as is known, does not require a high temperature. Certain varieties, like the Saffron Rose, continue to put forth buds and flowers all winter long in Provence, and well-developed roses of that variety can be picked at the end of November even in the climate of Paris. At Mr. Mari's place the Rose-trees are planted either in three lines, parallel to each other, for the bushy variety, or, in the case of those with flexible stalks, each by itself, something like Grape-vines, as, for instance, the Marshal Niel. They are sheltered by frames just high enough above the ground to allow of man walking about inside. At the height of the season, from December 15th to April 15th, the Park of Roses sends away an average of five hundred dozen roses a day.

At the last Floral Exposition at Nice I had an opportunity to admire the choicest products of Mr. Mari's establishment. There were Paul Neyron Roses more than twelve centimetres (four and three-fourths inches) in diameter; Marshal Niels so enlarged that a dozen buds half-opened weighed together more than eight hundred grammes (1.76 pounds avoirdupois), some La France Roses of a marvelous size and symmetry, and some Paul Nabonnands, nearly as large as the Paul Neyrons, and of a deliciously fresh color. All the roses, without exception, had a perfection of form and a brightness of tint which left nothing to be desired. It is no secret that a large proportion of the most beautiful roses in the most elegant flower-shops in Paris come in a direct line from those cultivated by Mr. Mari.

The Park of Roses brings to its proprietor a net annual revenue of 10,000 or 12,000 francs for every two and one-half acres of land.

Late June in the Garden.

I HAVE been wishing for an artist's skill to portray the pretty picture that greeted my eyes the other day when I peeped into a Yucca bell. They were not fairies, the dainty occupants, but they were as pretty as fairies, although they took the shape of pure white moths less than an inch long, who had fancied the Yucca's spotless cool interior for a noonday nap. There were at least a dozen of them. I looked into other bells on other Yuccas and found them occupied by the same airy visitants. Are these the Yucca moths whose mission is to fertilize these beautiful blossoms, and thus to pay for bed and board? A heavy thunder-shower came up; the Yuccas swayed in the wind, bent over until they swept the ground, and the blossom seemed too frail a tenement to sustain its occupants. I felt sure that they would be dislodged and blown about at the mercy of the elements. The rain fell in sheets, and when the storm was over I peeped again into the dripping bells. Not a moth guest was discomposed; all seemed to sleep serenely, waiting for the fire-fly signals that should herald the summer-night and awaken them to elf-like revels under the mighty Oaks.

Nothing can be more beautiful than the night aspect of the immense clusters of Yuccas, some of them planted forty years ago, which are now blooming in many places in the old garden, holding up tall candelabra to be filled with moonlight, which they catch in every chalice of pearl. Some of the flower-stalks are seven and eight feet in height. The first to bloom was Y. filamentosa, variety flaccida. Several varieties planted last year, such as Y. superba, Y. angustifolia and Y. recurva, have not yet bloomed, but are making satisfactory growth. These crown a little hillock north of the house, in company with some Rhododendrons, Aucubas, Laurels and Arundo donax. With all of these they combine effectively. They seem to rather enjoy drought and neglect, and thrive well when left to themselves, but are very easy to transplant and hard to kill. I have seen them rooted and blooming happily on top of an old rubbish-heap where they had been thrown to die.

The common name for this plant hereabout is Cliff-lily. I do not know why it is so called, unless it be that it prefers hilly ground in its wild state. Several years ago, when I knew the botanical names of very few plants, I was led by the enticing descriptions and beautiful illustrations—which I did not recognize—in the catalogues to send for a few roots of Yucca filamentosa, and was as much chagrined as surprised to find when they came that they were the familiar Cliff-lilies with which the garden was already overstocked.

Trumpet Creeper (Tecoma radicans) is flaunting its orange-scarlet blossoms everywhere. It has subjugated the old paling-fence and converted it into a most luxuriant hedge, and it scoffs at all control and riots over the beds and up the shrubs and trees, peeps out in most unexpected places and keeps one busy all summer long in the vain effort to reduce it to submission. Now it is detected in the act of strangling a promising young fruit-tree, again it is quarreling with the Clematises for the possession of a trellis; it has taken all the best places in the Honeysuckle-arbor, and conquered a rock-brake under the Cherry-trees north-east of the house, which it beautifies in its own wild fashion, and where it is quite welcome to twist and twine and luxuriate at will.

Very large clumps of Hollyhocks of white, yellow, rose, red and wine-colored shades are still blooming. One of these clumps in front of the carriage-house seems most appropriately placed. There is a suggestion of homeliness about this flower, in spite of its stately beauty, which makes it fit such a situation best. Farther down the grove, in too close proximity to the Oaks and other forest-trees, it would seem misplaced, but in the neighborhood of buildings and in fence-corners and garden-borders it is perfectly at home.

Many Spiræas are now blooming. Among the prettiest of these is S. Bumalda, which is a Spiræa of small size, growing rapidly to maturity in good soil, and producing its pretty clusters of pink blossoms all summer long. It is grouped with the white variety, S. callosa, and the pink and white flowers of these two Spiræas mingle very pleasingly.

S. sorbifolia is just coming into flower, and is a large bush of rapid growth, handsome white flowers and beautiful Mountain Ash-like foliage. It is planted in company with S. Lindleyana, which has not yet blossomed at Rose Brake. This latter has somewhat similar foliage, seems quite hardy here, but does not grow very fast.

S. callosa is now very pretty, with large clusters of bright pink showy flowers, and S. Billardii is a great bush, covered with spikes of rosy bloom, very ugly when they fade, and requiring much attention from the garden-scissors to keep it presentable.

Privets are flowering, and a pretty little Cytisus, labeled C. capitatus, is giving a few heads of bright yellow blossoms, which are slightly fragrant. Ceanothus Americanus, or New Jersey Tea, is a neat little shrub with numerous clusters of tiny white flowers, very much resorted to by little, round, shiny black rose-bugs, dainty little epicures, which seem to prefer all our prettiest flowers. They are very troublesome to the Ramanas Roses, which are still in bloom, and they eat the blossoms of the pink-flowering Raspberry (Rubus odoratus), whose boasted fragrance I am unable to detect, although I am, perhaps, unusually sensitive to the perfume of flowers.

At this season the Polyantha, or Fairy Roses, flower very profusely. Indeed, they never stop blooming until checked by hard frosts. The hybrid Clematises, though some of them are less interesting than the species, are giving abundant flowers of various colors, and the pure Madonna Lilies, which are very beautiful in a large cluster on the lawn.

The meadows are gay with white, purple and pink Larkspurs, with Milkweed, white and yellow Daisies, the blue flowers of the Viper's Bugloss, and many other sturdy plants. Here and there an orange-colored patch of Asclepias tuberosa delights the eye; neglected orchards are overrun with Wild Mustard, and Elder-blossoms are still whitening the hedge-rows and corners of the pasture-fields with late wild Roses in loving companionship.

Rose Brake, W. Va. *Danske Dandridge.*

The Mutual Influence of the Stock and the Graft.

IN the report of the Michigan Horticultural Society for 1891 Mr. A. A. Crozier has a most instructive paper on this subject. He collects together most of the opinions which have been published, together with the evidence upon which these opinions are based. As a rule, the observations here put on record have not been based on direct experiment undertaken for the particular purpose of determining the modifying influence of either the stock or

the graft. Many of the statements are contradictory, and much of the testimony has to be rejected. Some of the changes said to have been observed are plainly imaginary, and Mr. Crozier has allowed them to appear simply to show what beliefs have been held. Careful and well-directed experiment will, of course, be necessary before the points involved are settled, and we are pleased to observe that Mr. Crozier himself promises to conduct some of these trials. But, although this evidence reported is not all of very serious value, there are altogether forty pages of quotations published, and a careful examination of them gives abundant proof that both stock and graft do influence each other's growth in very many ways, and Mr. Crozier gives the following conclusions which he has deduced from a careful study of the existing evidence:

Size and Vigor.—The stock and graft each imparts to the other something of its own degree of vigor or lack of vigor. This influence is greater the first year or two than afterward. If the difference in vigor is great, both stock and graft may ultimately perish. The dwarfing which in certain cases results from grafting does not always arise from a diminished supply of food, but often indirectly from earlier and more abundant fruitfulness.

Form.—The alterations in the forms of trees, as the result of grafting, arise mainly from increased or diminished vigor. This probably applies also to alterations in the form of the roots, vigorous roots having larger, longer and fewer branches than feeble ones. Many of the observed changes, however, in the form of the roots of grafted trees, are probably due to the trees having rooted from the graft. The observed changes in the form of the fruit of the graft, causing it to resemble that of the stock, are as yet too few to be considered other than accidental.

Fruitfulness.—The most important of all the results of grafting is increased fruitfulness. This is brought about (1) by the mere process of grafting, which operates in the same manner as a ligature, or the removal of a ring of bark; (2) by diminished vigor through defective nourishment from a feebler stock; (3) by increased vigor imparted by vigorous stocks to varieties which are naturally too feeble to bear heavily.

Precocity.—Earlier, as well as more abundant, fruiting is induced by the act of grafting; also by diminished vigor due to dwarf or feeble stocks. The precocity of trees on dwarf stocks is not, however, always directly due to diminished vigor, but largely to the habit of early bearing imparted to the graft by the stock in a manner not fully understood. Probably the diminished supply of sap derived from dwarf or feeble stocks, and its consequent richer character, is an important factor in inducing the earlier and more abundant fruitfulness.

Season of Growth and Maturity.—The stock and the graft each modifies the period of vegetation of the other when their normal times of beginning or closing their season's growth are different. Thus, a late variety grafted upon an early stock begins and ends its season's growth earlier than it otherwise would. This alteration in habit appears in some cases to affect the time of ripening of the fruit.

Hardiness.—There is some evidence that hardy stocks increase the hardiness of the grafts. This, however, does not appear to be by the transfer of any inherent hardiness peculiar to the variety, but to result from the increased or diminished vigor in certain cases or an earlier maturity in varieties which, upon their own roots, are inclined to grow too late in the season. The advantage usually sought in hardy stocks is to furnish hardy stems able to resist injury to the bark by sun-scald, etc., and to supply roots of uniform hardiness in place of those of ordinary seedlings which are frequently less hardy than those of most cultivated varieties. Conversely, a hardy graft has been known to increase the hardiness of the stock, but known examples of this are rare, and usually no such influence can be observed.

Adaptation to Soil.—"Favored by the influence of the stock, many species are able to thrive in unfavorable soils, and often in those in which they could not live if upon their own roots." There is in this fact no evidence that the character of either stock or graft is modified. In some cases, however, the demands of a vigorous or fruitful graft may render the roots of the stock more exacting as to soil, so that they require one which is more fertile or of more definite character in which to maintain in health the grafted tree than would be required for a tree of the same kind as the stock growing in its natural state.

Color.—An alteration in color, as the result of grafting, may occur (1) by the direct transfer of coloring matter, as in the example of the white and yellow carrots; (2) by earlier or later maturity, earlier maturity inducing more heightened color; (3) by the restoration of normal nutrition to a "variegated" stock or cion; (4) by the transfer to a healthy stock of the disease known as variegation. There is little evidence that the characteristic color of fruits is modified by grafting.

Flavor.—The testimony is abundant that fruits may acquire the flavor of the fruit of the stocks on which they are grafted; this has been especially noticed in the case of sour Apples grafted upon sweet varieties. Other modifications in the flavor and texture of the fruit have been noticed which do not cause them to resemble the fruits of the stock. The operation of grafting itself often causes the fruit to be larger and more succulent, and to ripen earlier; this latter change, when it causes more perfect ripening, improves the flavor. We can say that certain stocks improve the flavor of fruit borne by the graft, while others deteriorate it, and that it is probable that stocks bearing highly flavored fruits intensify the flavor of the fruit borne by the graft, while stocks bearing fruits which are sweet or mild in quality diminish it; but, notwithstanding the abundant testimony to this end, direct and careful experiments are needed.

Disease.—The evidence is conclusive that certain diseases may be conveyed from stock to graft, and vice versa. This applies not only to diseases caused by parasitic fungi, but also to the peculiar form of malnutrition known as variegation. It will be observed that nearly all the best-established changes which are noted are due to altered nutrition, and though they sometimes cause the stock and graft each to acquire some of the features of the other, these alterations extend mainly to such points as vigor, color and period of vegetation, and in no case can they be considered to be of the nature of hybridism.

Fruit Trees in Flower.

I AM advised by friends to cut down a huge Pound Sweet Apple-tree which stands among the shade-trees on my lawn, but in my judgment none of the rare and beautiful trees which are called ornamentals surpass this one when in flower with its exquisite shades of white and red. The love of the Japanese for Plum and Cherry-trees amounts to a passion and almost a worship, and this, not because of their fruit, but of their flowers. During the season of apple-blossoms I have driven about the country a great deal and made notes of some remarkable developments of high-colored flowers in certain individual trees. I found one growing near the roadside with flowers of a fairly dark purplish red, a tint I have never seen before. Another tree I have found which bears blossoms closely approaching scarlet in color. My purpose is to secure cions of these trees and have them grafted next spring, for as flowers they deserve to rank among our richest. Certainly it is worth while to collect examples of such variations so that we can see apple-blossoms carried through their widest range of color.

The Peach is always beautiful in flower, but occasionally some individual tree is almost startling in its attractiveness. The rule seems to be that the finer sorts of Peaches have less conspicuous bloom. The very handsomest trees in flower are the wild ones along the wayside in Kentucky, Missouri and Arkansas. Some of these ought to be selected and treated purely as flowering trees. Cherries, so far as I know, do not have blossoms which sport into colors, but a Morello is sufficiently attractive in white. It is a complete globe of flowers and small enough to occupy a place in an ordinary shrubbery. Then, too, it has a capacity for blooming when very young, and a tree three years old will burst into a miniature flower-garden three or four feet in diameter.

Pear-trees appeal to us for the beauty of their foliage as well as their flowers. This is the one fruit tree with rich glossy leaves, and sometimes it has a noble and unique habit, while in the autumn it gives us unsurpassed colors of foliage. The Buffam is one of the best trees to plant where a fastigiate form is needed, and it is unrivaled for the crimson and purple of its October foliage, besides which it is a delightful tree in bloom. Some of my own trees, twenty feet high and no more than six or seven feet in diameter, form a pyramid or sugar-loaf of perfect white in flower. Of course the flowers of all these trees are evanescent, but so are those of most other flowering trees and shrubs, and certainly in planting trees for the beauty of their flowers these fruit trees should not be entirely neglected.

Indeed, the whole family of Rosaceæ is eminent for the freedom with which they yield delicate flowers. Some sorts of Strawberries can be used very effectively as edgings, and after the bloom is over the show of fruit is very pleasant to

the eye, especially on such plants as carry it well up out of the dirt but on stalks not too long. Such varieties as Haverland, for example, are not useful for this purpose, but Cumberland is excellent, and among some cross-bred varieties I have one with semi-double flowers which is most interesting to look at. Dewberries are admirable screens, and so are the so-called Wine Berry and our native Thimble Berry.

There are few shrubs which can rival the beauty of a Quince-tree in full bloom. On the first of June I had a small orchard of forty of these trees covered with flowers, and it was a superb spectacle. I grew a few of them in my shrubbery for the sake of the flowers alone, although the pale flower, is always a delight to the eye. There are few finer shrubs than the dwarf Apples, and both the Apples and Cherries can be managed very readily in this way.

Clinton, N. Y. *E. P. Powell.*

New or Little-known Plants.

Jacobinia magnifica.

THIS is a useful greenhouse-plant which formerly was commonly grown in English gardens, but is comparatively rare here now. Like most of the Acanthaceæ,

FIG. 56.—Jacobinia magnifica.

downy leaves have a value in a landscape. The flowers are equal in beauty to those of the Stuartia or an Exochorda.

Again, most of our fruit trees are as beautiful in fruit as they are in flower. To my imagination there is not a more beautiful object than a large Snow Apple-tree in October. I always dislike to pick off Jonathan apples from the tree, they are so beautiful as they hang upon the branches. What more beautiful picture can be seen than a Morello or Richmond Cherry-tree just as the fruit is turning crimson. I have said nothing of the value of dwarf trees for lawn-planting because many persons make a failure when they attempt to grow handsome trees in this way. Such failure is not necessary, however, and a dwarf Richmond Cherry, either in fruit or

it is either a scraggy weed or a handsome little shrub, according as it gets bad or good treatment. At Kew it is grown in quantity for the conservatory, flowering with a rush in November or December. It is raised every year from cuttings struck in heat in March and grown on in a warm moist house until July. The plants are by this time in six-inch pots, in which they remain until they have flowered. They like a rich open soil, such as suits Begonias, and plenty of water. From July onward the plants are placed in a frame where they get plenty of sunlight and air, the lights being removed on all favorable occasions.

By November they have formed compact little shrubs (they are stopped twice), leafy to the pot, and from a foot to one and a half feet high.

The stems are quadrangular, the leaves opposite, lanceolate, wavy, with prominent veins and covered with a soft down-like tomentum. The largest leaves are nearly a foot long by three inches in width, but the bulk of the leaves are only about half that size.

The flowers, which are a rich rose-purple color, are arranged in dense terminal heads, as shown in the picture, which has been prepared from a Kew plant. The old plants—that is, those that flowered last December, and a few which were preserved for the supply of cuttings—are now flowering again. There are several varieties of this Jacobinia in cultivation, namely, J. magnifica, var. carnea, figured in the *Botanical Magazine*, t. 3382, as Justicia carnea, and which, according to Lindley, was sent from Rio to the Royal Horticultural Society in 1827. This has glabrous leaves and flesh-colored flowers. The variety called Pohliana is, I think, so widely distinct from what is here figured as to deserve specific rank. It has ovate-acuminate leaves, almost cordate at the base, thin in texture, quite glabrous and tinged with purple beneath.

The flowers are bright crimson in color, and they differ in other particulars from those of J. magnifica. It was formerly called Cyrtanthera Pohliana, under which name it is still known here and there.

Other species of Jacobinia similar in habit to that here figured, and well worth growing for their handsome flowers, are J. aurantiaca, introduced by Makoy & Co., of Liege, Belgium, in 1849, who distributed it as Calcostylis aurantiaca. It has four-angled stems, lanceolate smooth leaves and large terminal heads of yellow and orange flowers. Another handsome yellow-flowered species is J. catalpæfolia, which has large cordate leaves and flowers arranged in terminal heads six inches long and four inches through.

J. coccinea flowers in summer. It has rather rigid cylindrical branches and lanceolate leaves, with heads of crimson flowers. It is sometimes met with under the name of Aphelandra cristata.

According to the *Genera Plantarum*, there are about thirty species of Jacobinia, all natives of tropical America. The genus now includes Cyrtanthera, Libonia and Sericographis.

London. *W. W.*

Gladiolus Armeniacus.

THE numerous showy hybrid Gladioli have so far superseded the species in cultivation that, with few exceptions, one seldom sees any of the Cape or Asiatic species. There are very many of these, and among them a number of interesting things, but practically of little garden value in comparison with the hybrids of the florists. One of the newer species from Herr Max Leichtlin is Gladiolus Armeniacus. This has proved with me entirely hardy under cultivation. The leaves are narrow and grass-like, and the flowers, opening in May, are borne on slender wiry stems, say, one foot high. In color they are a violet-purple, self-colored, except that the lip has markings of a deeper shade. The hood is curiously detached and distinct. It is not a very showy plant, but a useful addition to the hardy border.

Elizabeth, N. J. *J. N. Gerard.*

Cultural Department.

Notes on Shrubs.

THE two or three species of Styrax in cultivation are well worth a place in all gardens of any extent, and it seems surprising that these pretty flowering shrubs are not more generally seen. They do not appear to be commonly known, and one rarely finds them outside of a botanic garden, a nursery or an enthusiast's collection. It may be that they have not won greater popularity because the flowers do not endure very long or because they are largely hidden by the foliage. The habit of the shrubs is often rather open and straggly, but the foliage is clean and glossy, and, apparently, they are not liable to any serious disfigurement by insects or fungi.

There are two species of these shrubs to be had from nurseries, the Japanese (Styrax Japonica) and the American (S. Americana). Both are quite hardy in this climate if planted in good well-drained soil and not too much exposed, but if there is any difference in hardiness it seems to be in favor of the Japanese species. This is also the most showy and best worthy of cultivation. Its flowers, each composed of five large ovate petals, are something over an inch across, are of the purest white color, and are borne singly on slender stalks about three-fourths of an inch in length. They hang along the under side of the branches and produce a very beautiful effect, especially if the stems are tall enough to allow the blossoms to be seen from the under side of the somewhat horizontal branches. A serious detraction in the value of these flowers is that the whole corolla easily and soon becomes detached and falls in a single piece while yet looking pretty and fresh. The corollas carry the stamens with them, and after a heavy rain the ground is generally thickly strewn with the blossoms. The plant comes into good bloom here about the middle of June.

Less showy and handsome than the Japanese species is our native American one known as S. Americana, which is indigenous from Virginia southward. Its flowers are produced at the same time as those of the Japanese species, and apparently quite as abundantly. But they are much smaller, the petals being quite narrow, and they assume a strongly recurved position instead of remaining flat and horizontal like those of the Japanese species. They are also borne on shorter stalks, which renders them less graceful. The flowers of both have a sweet but delicate fragrance. Fruit is freely produced, and has something of the appearance of the dry little fruits of Linden-trees, being roundish and quite bony and with the calyx persisting at its base. The Styraxes, or Storaxes, as they are sometimes called, may be grown either from the seed, that grown here being quite good, or by layers or cuttings of the green wood. Layering is probably the easiest mode by which the amateur may obtain one or two new plants from one already established. As the seeds are dry and bony, they should either be sown as soon as ripe or they may be kept in a box with moist sand and subjected to the action of frost over winter and sown the following spring. Either of these Styraxes may grow and thrive if grafted on stocks of the Snowdrop or Silver-bell-tree (Halesia tetraptera), to which they are closely related botanically. The Halesia freely produces good seed here, and young plants for stock may be easily raised.

The recently introduced Japanese and Chinese Viburnum dilatatum, which was figured in the last volume of Garden and Forest (p. 150), has again flowered profusely, the blossoms being in most showy condition a day or two later than the middle of June. As a flowering shrub this might be called pretty, but it is hardly entitled to any more consideration for its inflorescence than our common Arrow-wood (V. dentatum), whose flowers appear about the same time, or than the European Wayfaring-tree (V. Lantana), which blossoms somewhat earlier. The flowers are not very long persistent. V. dilatatum is to be valued most for its bright red or somewhat orange colored fruit in autumn, and for its late persisting yellowish autumn foliage.

Of the more showy Viburnums, those with large sterile flowers in addition to the perfect blossoms, we have no aboriginal kind which surpasses our own High-bush Cranberry (V. Opulus) in abundance and beauty of bloom in early June. More beautiful than this in its blossom is the Hobble-bush or American Wayfaring-tree (V. lantanoides), a rather common plant in nature, although it must be considered very rare in cultivation. This is much the earliest of all Viburnums to

blossom here, the first flowers on cultivated plants in the Arboretum opening as early as the 29th of April, while the sterile blossoms were conspicuous for some days earlier. The flat cymes of flowers of this species are broader than any other we know, and should a "snowball" form of this ever be produced it is likely to form an enormous cluster. Not the least interesting character of the Hobble-bush is the very large size of its thick, rough leaves, which always excite admiration, and which, when growing in the sunlight, soon take on a bronzy or purplish lustre. That a "snowball" form of this may be produced in the course of more general cultivation seems not unreasonable when it is considered that the three other species in general cultivation, and which bear showy sterile flowers in a natural state, have all given forms of the snowball character. These are our native Cranberry-bush, already alluded to, a native of Europe and Northern Asia as well as of our own country; the Japanese species, the double form of which has for some time been known in our gardens as V. plicatum, and the less common and less hardy Chinese species which bears the name of V. macrocephalum.

It is a curious fact that the wild-flowering type of V. plicatum, bearing cymes containing both showy, sterile and the small perfect flowers, has only been recognized in American and European gardens within a very recent time. It is known to botanists as V. tomentosum, and, like the High Cranberry-bush, its flowers are much more graceful and pretty than are those of the snowball forms. Nevertheless, the latter have come to be a necessity in all gardens. Of the two the Japanese Snowball is by far the best, because, not only are its blossoms handsomer and in finer clusters, but they endure twice as long in good condition as those of the common Snowball of our gardens. What seems to be a still greater advantage is that the clean dark green foliage of the plant seems to enjoy a singular immunity from attacks of Aphides and other insects, such as affect the common Snowball in almost every garden and cause the leaves to become wrinkled and twisted, not only to the disfigurement of the plant but to the detriment of its health, to such an extent as to interfere with the perfect development of its flowers. Applications of whale-oil soap will destroy these Aphides, but it has to be very thoroughly applied to be effective, because the distorted leaves offer secure hiding-places from all ordinary showerings or sprayings. When one of these shrubs is clean and well its flowers are carried with singular grace.

Arnold Arboretum. *J. G. Jack.*

Indoor Work in July.

WORKING under glass is not an unalloyed pleasure during the midsummer season, but many of the finest stove-plants require attention if they attain their best estate even though the cultivator may find the temperature somewhat uncomfortable. This is the season of most active growth for many foliage plants, and there is, therefore, a certain amount of potting to be done all through the summer, in addition to the general overhauling that has been given in the spring; and while the growth of the plants is active, that of various insect pests is equally so; constant watchfulness is therefore needed since it is much easier to rid the stock frequently of a few insects at a time than to rid them of vermin after they have become badly infested. Some of the tender-leaved subjects, such as Cyanophyllum magnificum and Sphærogyne latifolia, are frequently attacked by mealy bugs, and in such cases very careful handling is needed, for the least bruise given to the young foliage when it is expanding will permanently disfigure it.

A camel's-hair brush is the most effective weapon to use on such plants for the removal of mealy bugs, and unless used very roughly it will seldom injure the young leaves. The plants above noted are among those requiring a rather high temperature and moist atmosphere to encourage their full development, but when this condition is attained, their beauty fully repays for the care given. Plenty of pot-room also should be given to these plants, and a light, rich compost,

Fig. 57.—Lumbering in Bear Meadows, Centre County, Pennsylvania.—See page 314.

and it should be remembered also that the soil should not be rammed very hard in the pots, and that the pots should be well drained.

Caladiums should now be in full growth, and if fine specimens are desired they should be potted on into large-sized pots or pans before the roots become stunted. A liberal quantity of dry cow-dung should be used in the potting soil, and, as soon as the pots become well filled with roots, an application of liquid-manure about three times a week will improve both the size and coloring of the foliage. And here may be an appropriate place to say that no collection of Caladiums is complete without C. argyrites, whose small, silvery-marked leaves are admirable either on a specimen plant or for cutting to use in table decorations.

One of the handsomest stove-plants of recent introduction is Phrynium variegatum, and though it grows best in a warm moist house, yet it seems to have enough endurance to stand very well for table decoration. It may be readily propagated at this season by means of cuttings formed from the young shoots or suckers taken off below the surface of the soil, which will soon form roots when placed in sand in a warm house. It is not too late to put in cuttings of Azalea Indica, though when the weather is very warm such cuttings require some care to guard against damping-off. The cuttings should not be taken from plants that are standing outdoors for the summer, for such growth is too hard to root readily.

The best wood for Azalea-cuttings is found in the form of soft young shoots from two to three inches in length, and taken off with a heel of the older growth attached, these being inserted in pots filled very firmly with light sandy soil, peat being preferable for this purpose. The pots should be plunged in a propagating-frame where they can be given some bottom-heat. The cuttings should not be exposed to strong sunshine, for if they are allowed to "flag" they seldom recover enough to make roots.

Many members of the Gesneraceæ help to make the greenhouse bright at this season, among which the Gloxinias are very prominent, and various Gesneras, Tydias, Achimenes, etc., vie with them in beauty and brilliancy of coloring. It should be remembered that all the plants of this family enjoy good living—that is, they should be well supplied with manure in the compost in which they are potted, and when the flowering period begins liquid-manure may be added quite freely.

Holmesburg, Pa. *W. H. Taplin.*

Actinidia polygama.

WHEN visiting the Amherst Agricultural College recently, Professor Brooks pointed out two fine specimens of the true Actinidia polygama growing on his dwelling-house, which he brought home with him on his return from Japan after a twelve years' sojourn there. It appears that the species of Actinidia now in commerce, and called A. polygama, is A. arguta, a very different plant from the one here noted. A. arguta is a rampant grower, and when used on a dwelling-house soon shuts out all sunlight from the piazza, and then gets on the roof and displaces the eave-troughs in a way which renders continual cutting necessary to keep it within reasonable limit. When this plant was introduced into this country it was said that cats were very partial to A. polygama in Japan, but the American cat was found to be sublimely indifferent to A. arguta. The true species, however, Professor Brooks has found it necessary to protect about the base with wire guards, for, in his words, it out-Catnips Catnip as an attraction for these animals. This may be a peculiar way of verifying a species, but the evidence certainly seems admissible and to the point.

In appearance the plants have nothing in common. A. arguta is a vigorous grower, with heart-shaped foliage of a deep olive-green, and flowers that are polygamous, a feature which, perhaps, first caused the mistake in nomenclature. The plants of A. polygama, which Professor Brooks has, are not rampant, but vigorous enough for any decorative purpose where a twining plant is required, the principal beauty being in the foliage, which is for the most part of a beautiful pea-green, while about one-third of the foliage is suffused (not variegated) with an indescribable silvery lustre, often covering the whole leaf, but sometimes only a part of it, and beginning always at its base. When I first saw the plants with the sun shining on them and glistening in the light, I was compelled to ask if this was caused by the sunshine, but was soon shown that the color was permanent. Were the whole of the foliage silvered in this way the effect probably would not be half as beautiful.

The flowers of A. polygama are about the size and color of an Orange-blossom, but with a sweet perfume peculiarly their own. It is much to be regretted that the nomenclature of Japanese plants gets so badly mixed up, as years will pass before the names of the Actinidia can be trusted as correct in catalogues. The plants of Professor Brooks are certainly of great ornamental value.

Among other things brought over by the Professor are a fine young specimen of the Japanese Lacquer-tree (Rhus vernicifera) and many beautiful varieties of Japanese Maples, especially the cut-leaved kinds. Some very dwarf forms of Retinosporas were here also—peculiar reminders of a peculiar country.

South Lancaster, Mass. *E. O. Orpet.*

The Garden in June.

WHEN a garden has been stocked with a selection of plants to produce a succession of flowers, their blooming furnishes continual surprises. As the weeks advance, each with its varied flowers, it sometimes appears as if the flowers were spontaneous productions, so little care have the plants received. At the end of June the Larkspurs, Foxgloves, Hollyhocks, Lychnis, Coreopsis, Perennial Peas, Campanulas, Spiræas, Ascension and Golden-banded Lilies and Clematis are brightening all the borders with a wealth of bloom, together with the flamboyant Japanese Irises, and the dainty Gypsophila and Galium. The first of the annuals are in the flush of beauty. These are by no means ordinarily spontaneous flowers, except those like Calliopsis, Poppies and annual Chrysanthemums, which are usually self-sown. The charming Shirley Poppies, with their delicately formed and colored flowers, now cover the nakedness of the early bulb-bed.

Sweet Peas are now in full vigor. These plants have always bothered me, my soil being heavy and hard to work early in the year, when the seeds should be planted, besides which, as work is pressing at that time, they were often neglected. By planting seeds in thumb-pots in the cool house I have had much more satisfactory results. The pots were plunged in the earth slightly, and the roots penetrated the soil. In May they were carefully lifted when the tops were a foot high, the pots were broken off, and they were transplanted outside. Owing, perhaps, to their being planted at a suitable distance apart, they have grown away better than any plants I have raised outside, and are producing first-rate crops of flowers. Blanche Ferry (it is hard to get too many pink flowers) and pure white Peas cover my wants in these desirable plants. The perennial Peas (L. latifolius), white, pink and red, are ornamental low climbers with a profusion of flowers, valued by some for cutting. They are strong plants, needing care to keep within proper bounds. Mr. Orpet's note on Lathyrus tuberosus reminds me that there are a number of these strong plants which we sometimes feel like posting in the garden *Index Expurgatorius*, yet which, after all, should have only a note of warning attached. A plant ruthlessly destroyed in one garden may be highly valued in another. A list to be commended to those people who love flowers, but for whom they will not grow, might contain such things as these. It would be curious and interesting to see a garden filled with plants which are difficult to exterminate when once they had gained a foothold.

Hardy Carnations are now in full flower. It is interesting each year to sow with the annuals seeds of Carnations of a good strain. When small they can be transferred to the border, where they will prove reliably hardy the first winter. They bloom profusely, and will at least furnish a profusion of flowers for cutting, and sometimes there will be kinds to save. After the first season the stems become hard, and they are apt to be destroyed by winter frosts. The border Carnations, mostly English strains, are not safe plants to leave out in this latitude, especially when well grown, and it is well to pot them in the fall and keep them in a frame. Such kinds as the old Crimson Clove and its dwarf variety, Paul Engleheart, Souvenir de Malmaison, Mrs. Reynolds Hole, etc., are well worth the care required. Mrs. Reynolds Hole is an especially beautiful and distinct flower of an apricot shade. The popular Malmaison is perhaps better for the protection of glass at all times, as its massive flowers are rapidly rotted in wet seasons.

In the water-garden this is the time of the hardy Nymphæas, though nothing there makes such rapid advance as Nelumbium speciosum, whose wonderfully beautiful leaves expand almost visibly. Some Callas which had been kept growing, but rather dry in the greenhouse during the winter, were plunged in the tank in the spring, and prove rather interesting. The foliage is much shorter and sturdier than under glass, and the flowers have come freely, and prove very lasting. They

will be ornamental probably till the Sagittarias commence to flower with a change of effect. Of the pink Nymphæas there is now a nearly complete series through the entire gamut of color between the slightly tinted N. carnea to the deep carmine-rose of N. odorata exquisita. This last has a color tone in the way of N. rubrum, but lighter. Of the various white Nymphæas, among which there is a wide difference in form, I am inclined to give the palm for beauty to N. Marliacæ albida. This is a flower of the largest size, with petals somewhat narrower than those of N. alba. The color is a lustrous silvery white, very distinct and beautiful.

Elizabeth, N. J. *J. N. Gerard.*

The Importance of Microbes in the Cultivation of Plants.

MONSIEUR CHARLES NAUDIN, in an article in the *Revue des Sciences Naturelles*, gives a plausible explanation of the frequent failures which occur in growing exotic plants. Even though the conditions surrounding the plant may apparently be favorable to its development, it often seems that an essential element is wanting. Monsieur Naudin considers this element to be, in a great many cases, the fertilizing microbe which is found in the soil in which the cultivated species originally grew.

Several facts support this theory. He cites cases relating to certain species, in which it has been impossible to grow the plants, whatever the composition of the soil in which they are placed. His own experiments, which were carried on with seedlings, strongly incline him to the belief that the presence of certain micro-organisms in the soil is an indispensable factor for the development of many plants. It is well known that fertile soils swarm with several kinds of microbes, and it also seems that certain plants are infested with microbes peculiar to them. Monsieur Naudin says that these may be transmitted from one generation to the next, and even though the plant may not die outright, its growth may be checked and its life shortened, if certain lower forms of life are not present.

Cornell University. *E. G. Lodeman.*

Correspondence.

New England Country Houses.

To the Editor of GARDEN AND FOREST:

Sir,—Your correspondent, S. P. S., who does me the honor to agree with me in a taste for warm colors in house-painting, suggests that stone and brick would in the end be more profitable, as well as picturesque, building materials than wood, which requires frequent painting and occasional renewing. While agreeing with the writer wholly as to the more interesting and picturesque character of solid construction, I still think that there are serious objections to using brick and stone for houses in a New England village.

These materials, so pleasantly cool in a continuously hot summer climate, are apt to make a dwelling damp and cold when our variable wind whisks round suddenly to the northeast after days of tropical heat. So long as the weather is cool enough to permit a light furnace fire, stone houses are very agreeable, but the torrid temperature of our summer days never fairly warms through a thick wall, and the change from out-of-doors is often chilling and uncomfortable on a day when a wooden house would prove just pleasantly cool. To be sure, a fire on the hearth can be easily lighted, but it requires an army of servants to attend to open fires in many rooms, and the consequence is that one often goes unwarmed rather than take the trouble to attend to the falling logs, which it is unsafe to leave, and the consequent chill received is unwholesome. There is an undeniable dampness about brick and stone dwellings here, which shows itself in the rust on steel and iron objects, in mold on neglected shoes, in spots on the walls of shut-up rooms, which proves that they are seldom thoroughly dry without artificial heat. Even in the brick-ended houses, with wooden fronts and backs, common in some old-fashioned towns, there is the same trouble from the collection of mold and rust even in houses not shaded by trees. This is not experienced in wooden houses unless in very wet and shaded localities, which shows that there is a freer circulation of air in frame-dwellings, and a healthful dryness even in shut-up portions during the summer.

Sea-side buildings of stone are apt to leak around the windows during a driving storm, so that much damage is often done even in an apparently well-built house, and in cold winters the pointing with mortar is apt to crack and let in the rain. Severe seasons are also apt to throw rubble-work wholly out of place, and to occasion a great deal of damage in houses built of it. Moreover, is rubble-work in itself proper material even for the lower story of a house? To me it always seems to wear an air of insecurity, as if it might fall to pieces at any moment, especially when invisibly pointed, as is now the fashion, so that there is apparently nothing to hold the round stones together.

When we see what freaks the lifting of frost will play with unmortared walls of the most massive construction, throwing them down till huge gaps are visible in them, one may well hesitate to employ anything that looks as if it might be liable to that sort of upsetting when the mercury goes below zero. Of course, the walls can be constructed to stand firmly, but anything which looks insecure is architecturally faulty, however picturesque it may be. Frost and rain certainly do queer things in the Yankee climate, which shows a special animosity to outdoor plaster of all kinds, and when a high wind blows, almost any one feels more comfortable in something that may possibly blow away all in one piece, but will certainly not tumble into fragments like a house of cards.

But, after all, the very serious objection to brick and stone is in the immense difference in the first expense of building with these materials, especially outside of a town where workmen are easily to be obtained; for in the country only a few men understand the business, one or two bricklayers usually sufficing to a village, and as many stonelayers having charge of the construction of cellars. In any case an outside stone wall costs at least twice as much as wood. As to painting, a brick house has to be oiled or painted about as often as a wooden one, to keep the water from driving through its porous structure, and the additional pointing which must be renewed occasionally in white-lead, also painted, is another item of expense. Also, stone and brick buildings have to be constructed on a much larger scale than wooden ones, to admit of an air space between the outer wall and the lathing to prevent dampness constantly penetrating the interior. Another point is the transportation of the heavy materials, which is very expensive compared to the transportation of wood, even if the stones are close at hand, as any one who undertakes to lay a few score feet of mortared wall of stone on his own land soon learns to his concern.

All these objections have weight with those to whom expense is an object, and there are few people who live all the year round in the country who do not have to count the cost of their houses with considerable care. The melancholy result of such calculation reveals that the picturesque is invariably the most expensive as well as the least durable of ways to build. Numerous gables represent places for leakage; stone and brick laid in mortar require close attention in our bitter climate, and the angles and recesses, so charming in a wooden house, render it the more difficult to keep in order. In short, true economy in building, both for durability and cheapness of maintaining and heating, was obtained by our colonial ancestors with their square uncompromising domiciles; and to this day these frame-dwellings, with such modification of their bareness of outline as may be obtained by verandas and bay-windows and skillfully placed railings, still remain the most profitable houses to build, and the least expensive to keep in order in New England, where the accessible stone is almost always very difficult to cut and handle, unlike a lime-stone or gneiss, which latter flakes off in a way that makes it ready for use without undue labor.

Hingham, Mass. *M. C. Robbins.*

A Foreigner's Impressions of America.—III.

To the Editor of GARDEN AND FOREST:

Sir,—My first impressions of America had left me with a vague sense of perplexity at the inconsistency between the glorious woods and the neglected front yards—my spring impressions only served to deepen this feeling. I did not feel it so much at first. It was so delightful to be out of town again, and the charm of Bean-stalk Land, of a new country, more open and free and bright than our ordinary European suburbs, was upon me strongly. The Boston suburb I had chosen is a very lovely one, rural and dignified. The older houses retain their original extensive grounds, and in the newer streets near the station the houses have not yet begun to crowd each other. There were but few fences, but that only seemed in keeping with the hospitable, old-world character of the large places, while the smaller grounds afforded full views of sparkling young grass and Peach-trees in bloom, entirely in harmony with the strange beauty of the keen spring air.

As April deepened into May, however, with the first glory

of the young grass, the ethereal beauty of the Peach-blossoms and Pear-trees departed and was succeeded by an exuberance of teeming life in the woods and fields that seemed to call for a corresponding joyfulness in the gardens. As my walks extended to long tramps and drives about the country and visits of curiosity to other suburbs of Boston, I sadly missed the English gardens. Had I never gone into the woods I might have thought that this beautiful land, with its abundant sunshine, was one where flowers did not thrive. But the woods had quite a different tale to tell. The variety of trees and blossoming shrubs and decorative flowers—many of them looking to me as if they had strayed from some garden—filled me with ever-increasing wonder and delight; and yet I knew that the woods which were accessible to me did not give me any adequate notion of the resources of New England woodlands. The few really charming gardens I saw only served to increase my perplexity by showing me what might be done in this favored climate, which seems to command the resources of both the North and the South. I remember one garden in particular, a bower of delight, with magnolias and fruit-trees, standing about in beds of strawberries, and holding up their crowns of blossom against a distant background of picturesque White Pine, while clusters of English Primroses nestled under the arch of a vine-covered trellis, suggestive of Italy. The Wistaria grew as luxuriant as it ever does on the shores of the lake of Como. The herbaceous borders were broad bands of solid color and splendid growth, and all this was planted on a slope that helped to give beauty to the perspectives, and was surrounded by a sturdy fence that made the charm complete. This garden and a few others like it were the luxuries of wealthy amateurs, it is true, but I do not see why the same thing could not be worked out on a smaller scale by less-favored mortals in suburban homes.

At present the ideal seems to be grass and a few shrubs or trees. A few words first as to this ideal. Such as it is, it might be much more artistically treated than is now generally the case. Even admitting that medium-sized suburban homes are generally deserted during the summer, and that for them it is well to have lawns, terraced or not, planted with some shrubs and trees that require no special care in summer, and possibly with a bed or two of spring flowers, it does not follow that these shrubs and trees might not be selected with taste and care. It ought to follow that people should put at least as much care into the choosing and arranging, once for all, of their shrubs and trees as into the choosing and disposing of their furniture. One belongs to the house as much as the other. An expensive house on a poor plot of land looks no better than a bunch of choice grapes on a coarse platter. Pretty surroundings, that give one something delightful to look out upon at all seasons of the year, are as important for the drawing-room as the furniture, and, indeed, if the question of cost should be urged, I should say that a choice shrub or two more in the garden, and a fashionable knick-knack the less in the parlor, would decidedly improve the parlor.

It has not seemed to me that many of the dwellers in suburban homes held this view of the matter. I have not observed that the women who go to art-schools, museums and lectures with great assiduity, for the purpose of educating their taste, have taken any pains to put the art-knowledge they have acquired to profitable use in their gardens. Looking over Japanese prints would teach them, if their own observation had not done so, that a Peach-tree in bloom would look all the better for having a background of White Pine, or that one or two detached plants of Iris, showing the beautiful growth of the flower, look better than a whole square patch of them, while everything else that they really saw and understood would be teaching them minor details about grouping and detaching, about line and color, which might all be applied in their own gardens. There is no working palette more varied and delicate than that offered to the garden artist by spring in New England, with the tender pinks, pure whites and golden yellows of the flowering shrubs and trees, the splendid dark foil of the White Pines, all the golden and bronze greens of the young leaves, and the gorgeous, distinct note of the Red Maple. A woman with whom artistic tastes had become second nature, and were no longer a mere fad, might, if she cared, convert even her little fenceless plot of grass and shrubs into a thing of beauty during the seasons of the year—spring and autumn—that the family spend in their suburban home.

A woman of artistic tastes would not long be satisfied with mere grass and shrubs, especially if her grass was terraced. A bare, terraced, grass-laid yard around a handsome house is a double anomaly. Not only does a fine house call for fine grounds, but any arrangement in terraces calls for a formal garden. Many of these terraced yards have a strip of perennials along one of the walks, it is true, but one bed on one side is not enough to carry out the idea of symmetry, irresistibly suggested by the terraces and the straight gravel walk leading from the sidewalk up to the house. The least one can do is to accentuate this walk and the small terraces themselves by shrubs or plants in pairs, either planted in pots or direct in the ground, as the case may be, and large or small, costly or simple, according to the taste and means of the individual. For wealthy suburban homes, where the people can afford to make an arrangement with a florist, I can think of no more beautiful June decoration than an avenue of the shrub Wistaria, with its indefinable air of distinction. Indeed, in this favored clime, there does not seem to be any kind of spring or early summer plant, shrub or tree, that lends enchantment to other lands, which is not available for purposes of gardening here, while the native woodlands themselves are rich in varied and beautiful growing things. But the passion for gardening, which would run riot in all this abundance, does not seem to exist, at least among the residents in the suburbs I have seen. Why is this? I wonder. Do not Americans love and appreciate their own beautiful woodlands? How can they see them without loving them, and how can they love them without trying to transplant some of all this woodland wealth to their private grounds and add a new charm to their home-surroundings?

Milton, Mass. *Cealia Waern.*

Periodical Literature.

The Forms of Trees.—I.

The following extracts from a paper by Gustav Eisen, read before the California Academy of Science on the 15th of last February, and reprinted in part in the April issue of *Zoe*, are interesting to all students of trees:

"A traveler," he tells us, "from the arctics, or from the high wooded mountains in any district of the world, cannot but be impressed by the different forms which trees and shrubs assume in the respective regions. Nowhere is this difference in form more striking than between the trees inhabiting the Pine region of the Sierra Nevada and those which grow on the lower plains in the interior valleys." . . .

"In the high Sierras, for instance, in that region below the snow-line, where the Pines and Spruces dominate, we find that almost every shrub and every tree resembles the other in a general way. The trees are tall and erect, with a central undivided trunk, from which the branches slope down toward the ground. The shrubs, again, are low and depressed, spreading out horizontally, forming dish-like masses, hugging the ground instead of seeking the sky. A few thousand feet further down in the region where the evergreen Pines and Spruces have ceased, the trees as well as the shrubs begin to assume a different aspect. The trees in this region are not so erect, their branches are less sloping, their crowns extend further, the trunks are often branching; there is, in fact, a decided difference in their general form. The shrubs, again, are more erect and bushy, forming often dense masses, which show little or no tendency to flatten out.

"If we again follow the vegetation further down to the plains the change in form is yet more pronounced. The trees are here, as a rule, branched close to the ground, their crowns are wider and spreading, the branches drooping and often sweeping the ground. The general form, which in the higher Sierras was that of an elongated pyramid, has here changed and become globular. We may call these, respectively, the Spruce form and the Oak form. In the higher mountains we rarely meet with the Oak form, at least not in evergreen trees, and on the plains the Spruce form is equally rare. There are some exceptions to this rule, but they are few, and in no way interfere with the theory which I will here set forth and endeavor to prove. Before we dwell upon the causes which have been and yet are operating in creating and maintaining these characteristic forms of trees, it is necessary to first consider those causes which combine in effecting a change in the form of trees generally.

"Nearly every visitor to the wind-beaten and open sea-shore has noticed the characteristic forms of trees and shrubs growing there. The shrubs spread close to the ground, the trees lean toward the interior, their crowns spread out horizontally, and their branches are thorny and knotty and continually bent. Such a sight is common everywhere in exposed places. In sheltered localities inland these same varieties grow upright, their crowns become less horizontal, the branches less twisted, and the same shrubs, which on the sea-shore hug the soil, grow here straight and send out slender branches. Even to the least observant the force that operates here and causes the

trees and shrubs to so change their shapes is the wind. When we see such trees and shrubs painted on a canvas we know at once that the landscape is a wind-beaten one, and that the vegetation is struggling against a force which is trying to destroy its foothold.

"But while the wind is especially active on the sea-shore in changing the natural, or perhaps the original form of the trees and shrubs, it is similarly effective to a lesser degree in any locality at all exposed to winds. The interior plains, the cliffs on the sides of the desert, the high mountain-peaks, the elevated plateaus, the table-mountains, the slopes of the more sheltered sides of islands—in fact, everywhere—may the power of the wind be perceived.

"The effects of the wind may be temporary or permanent; temporary, if the plant retains its original form and outward appearance when removed from the windy region to a sheltered one. This is by far the most common effect, and especially refers to shrubs. Many instances may be cited, but I will only mention one. Baccharis pilularis, which grows everywhere on the coast around San Francisco, clings typically to the soil and sand-hills where exposed to the wind, while on the north side of Tamalpais, where the shelter is perfect, and even in the Oak-scrub of Golden Gate Park, it assumes an erect form. So different is the outward appearance between these two forms that the former has been described as a distinct species, B. consanguinea.

"Similarly on nearly all our high mountain-tops we meet with Scrub Pines growing in the crevices and clinging to the rocks like real coverlets of verdure. But the same species may be found farther down in the elevated valleys growing erect with sloping branches and undivided trunks. Such instances are common. I may, however, here especially recall the dwarf and scrubby Pinus monticola, growing in the cañons on the slope of Mount Dana, while farther down splendid specimens are crowding the sheltered meadows.

"As an instance, again, where the effects of the wind have been partly permanent we may point to the Monterey Pine (P. insignis) and to the Monterey Cypress (Cupressus macrocarpa). Mature specimens of these varieties assume always horizontal crowns, even when growing inland, and only during their earlier growth do they show a tendency to grow erect like most species of Pines or coniferous trees generally. We may presume that if the evolution of a species is accompanied by this continued wind force the latter will, to a great degree, mould the outward form of the species. If, again, the evolution of a species takes place under various conditions of wind and calm the form of the species will be variable, according to exposure.

"The effect of the wind, while apparent everywhere, and while found in every climate and in every country, is, however, not the most powerful agent in shaping the forms of trees and shrubs. The snow which part of the year covers vast territories, often to a depth of thirty or more feet, has a great influence upon the forms of all plants which are exposed to it for a longer or shorter time.

"As the effects of the snow depend chiefly upon the resistance to pressure, it will be seen that evergreen and deciduous trees must be unequally affected. The foliage of the evergreens offers much more resistance to the snow than do the bare limbs of trees and shrubs which during the winter season are void of leaves. In some horticultural districts, where snow but seldom falls, and where, accordingly, such trees as Olives, Oranges and Lemons are cultivated successfully, an occasional fall of snow may do, and has in many instances done, considerable harm. We know that when the snow lodges on the evergreen and upright limbs of Orange-trees, these limbs become so heavy that they break down, more or less ruining the trees." . . . "Those limbs which point upward do not yield readily under the pressure of the snow, and trunks which are repeatedly forked will, if the pressure is heavy enough, split lengthwise. In case the trees in question had possessed downward sloping limbs and an upright, undivided or standard trunk, the effect of the snow pressure would have been less dangerous; the limbs would have yielded to their snow burden, which, when melting, would have slipped off, leaving the limbs free, and the undivided trunks would not have split, and the trees would have escaped without injury. If such snowfalls were frequent and regular, only such varieties could be cultivated as were possessed of downward sloping limbs and upright trunks. All trees shaped otherwise would gradually be ruined and their cultivation become impossible. These last remarks refer only, or at least principally, to evergreen trees. If the Orange-trees, which we gave as an example, instead of being evergreens were deciduous—that is, presenting only bare limbs in the winter, like Peaches, Apricots and Pears—the pressure of the snow would not have injured them, at least not by breaking their limbs and splitting their trunks, and their cultivation would not necessarily have been abandoned. If we consider a forest instead of a horticultural district, we will find that the conditions are there very much the same. The yearly snowfall, if only heavy enough, tends to break down and destroy all wild evergreen trees which do not possess a form suitable to resist the heavy snow mantle. Trees which would thus suffer would be all evergreen trees, with spreading crowns, such as Live Oaks, Laurels, Madroña, certain Pines, such as Monterey Pine, Digger Pine (Pinus Sabiniana), Italian Pine (P. Pinaster), Lebanon Cedar, and the hundreds, if not thousands, of other evergreen trees which inhabit regions below the regular snow-line.

"Nature thus eliminates from snow-visited forests all evergreen trees which are not suited to resist the pressure of the snow. On the contrary, the snowfall makes it possible for all those trees to live and survive which, through their outward form, are able to easily shed the accumulated snow. As regards deciduous trees, no such upright trunks and sloping branches are necessary, as the bare limbs do not accumulate the snow or suffer under pressure. If the above is true, the forests of snow-visited districts will be found to consist of only such varieties of trees as possess the requisite form—that is, evergreen trees with upright, undivided trunks and downward sloping branches, as well as of deciduous trees of various not especially characteristic forms. Upon examination this will also be found to be the case.

"A visit to the high Pine-forests of Sierra Nevada shows us just such forests. Nowhere is the snowfall heavier and nowhere is the characteristic form of the evergreen trees more pronounced. This is also the case in all other snow-visited regions where forests are at all able to exist. Where the snowfall is the heaviest and lasts the longest all evergreen trees, at least during a certain period of their life, possess the required pyramidal form. Evergreen trees of any other form would in their struggle for existence have little or no chance to compete with better-equipped neighbors. It follows, also, that the less the snowfall the less characteristic will prove the pyramidal form in all evergreen species, while lower down the mountains on the warmer slopes the pyramidal form may be expected to be entirely absent.

"To refer to our nearest high mountains, the Sierra Nevada, we find thus on the snow-belt such trees as Pseudotsuga taxifolia, Abies amabilis, Pinus Lambertiana, Libocedrus decurrens, Sequoia gigantea, etc. All these show in a characteristic way the pyramidal form, the snow-shedding branches and the undivided trunk. We find in this region no large Live Oaks, nor any large evergreen trees of globular or goblet shape. But in the region immediately below the heavy snow-belt the characteristic pyramidal shape is entirely absent. The forms of the evergreen trees are here evidently regulated by other agencies. In this region we meet with several evergreen Oaks with large crowns, spreading branches and repeatedly divided trunks. The Pines also, like P. Sabiniana, are characterized by their forked trunks, their upright limbs, and by their general resemblance to deciduous trees. As regards shrubs of all kinds, they are hardly less influenced by snowfall. In the snow-visited forests, at least, the evergreen shrubs show a low depressed form, sometimes spreading out like dishes on the ground. Other species, again, like the Manzanitas, possess repeatedly zigzag bent limbs especially adapted to resist the pressure of snow and wind. Such zigzag form is also possessed by the branches of trees, greatly assisting them to resist outside pressure of any kind. Thus, while the lower or central branches of most of the Pines in the snow region slope downward, the upper limbs, which are naturally less exposed to snow pressure, assume a horizontal position, but are compensated by being repeatedly bent and furnished with heavy knees. Such limbs are generally seen in the various species of Pines, such as P. Lambertiana, P. contorta, P. Jeffreyi; also in Sequoia gigantea, etc., while they are almost absent in the Spruces and Firs, the sloping elastic limbs of which continue to the tops."

Notes.

The Clarke Memorial Medal was recently bestowed by the Royal Society of New South Wales upon Mr. Thistleton Dyer, director of the Kew Gardens, in recognition especially of the valuable services which he has rendered to the agricultural and horticultural interests of India and the Colonies.

The Japanese Ligustrum Ibota is still too rarely seen in our gardens. It is one of the very hardiest and most desirable of the shrubs of its class, and just now it is covered with its short drooping racemes of pure white flowers which are so fragrant

that they perfume the air in all the neighborhood of the plants. Its free growth and graceful habit, in which it excels other Privets, make it beautiful, too, after the flowers have disappeared.

At a recent meeting of the Société Nationale d'Horticulture de France, Monsieur Cornu exhibited the yellow-flowered Pæony, raised from seed collected in Yunnan by Delavay, to which Monsieur Franchet has given the name Pæonia lutea. It is a small-flowered species of no ornamental value, but interesting from the unique color of the flowers and the possible influence it may exert in the creation of a new race of yellow-flowered garden Pæonies.

Mr. C. L. Mann, of Milwaukee, writes that an Elm-tree cut last winter at Sutton's Bay, Leelanaw County, Michigan, scaled 6,487 feet, board measure, by Doyle rule. The first eight feet of the trunk were cut off, and not taken out on account of shake, and a piece of the trunk further up had attached to it a burl about six feet in diameter, and six feet of the trunk were wasted to avoid the task of handling this. A deduction was made for defects in the first log.

The hybrid Lælia which was raised by Messrs. Sander & Co., of St. Albans, England, from Lælia purpurata, fertilized with the pollen of Cattleya Mossiæ, and named Arnoldiana, is now blooming in the collection of Mr. Hicks Arnold, of this city. The plant justifies all that was said in its praise when it was awarded a medal and a first-class certificate rather more than a year ago at a meeting of the Royal Horticultural Society, in London. Mr. Arnold's plant carries eleven flowers, and they show the good qualities of both parents, especially in the richness of their coloring, from the pale purple of the petals and sepals to the brilliant dark crimson of the lip.

Syringa Japonica, the great tree Lilac of northern Japan, certainly improves with age, and the large plants in the gardens of eastern Massachusetts, where this fine plant was introduced several years ago through the agency of the Arnold Arboretum, are better than ever this season, being covered with their immense clusters of creamy white flowers, which stand up boldly above the masses of rich dark green foliage. Among small late-flowering trees Syringa Japonica here at the north has no equal when once it is established in deep rich soil with sufficient room to insure the growth and ripening of its upright rather rigid branches which, when the plants are well grown, form a compact rather formal head. The largest plants in Massachusetts are now nearly twenty feet high and twelve or fifteen feet through the branches.

English fruit-growers are now compelled to compete with the most distant countries, for rapid transportation is making proximity to market a secondary factor in fruit-culture. A few years ago apples were first shipped from Australia to London, and this fruit was so much superior to that grown in England that the latter was, in some cases, practically driven from the market. This year Mandarin oranges have been sent to England from the province of Nagpur, in British India, and the fruit is of such excellent quality that it rivals the oranges grown in less distant countries. Peaches grown at the Cape of Good Hope have also been successfully shipped to London. They were sold in London early in February, the demand being strong. The first crate, containing 35 peaches, sold for 80 shillings. Such prices will be a strong inducement for further shipments.

The *Gardeners' Chronicle* has an interesting note about a Tulip-show which for sixty-seven years has been held at the Orange-tree Inn, Butley, a small village near Macclesfield, England. So popular is it with the Tulip fraternity that many admirers of the flower are attracted to it from Manchester, Macclesfield, Stockport, etc. The show is conducted according to all the old traditions: the flowers are staged in ginger-beer bottles in one room; in another sit the secretary and the exhibitors, and as the flowers are judged, stewards bring to the secretary the blooms awarded prizes; the names of the varieties and the exhibitors are entered by him in a book, and the proper cards affixed to them; they are then returned to the show-room and arranged on a sloping stage—like an old-fashioned plant-stage—placed at one end of the room, where they are on view for a few days, non-subscribers being "admitted on payment of silver at the doors." If any one would witness something of the old enthusiasm which stirs the Tulip-growing fraternity, they should pay a visit to the Butley Tulip-show. One curious proviso in the schedule of prizes is, that growers may be required to prove on oath the flowers they bring to the show were grown and bloomed by them.

At a recent meeting of the Torrey Botanical Club in this city one of the members described an interesting collection of New York plants, accompanied by many drawings, which he had been shown at the British Museum. The collection is in book-form and is prefixed by the following statement, written in New York in 1782 by F. von Langenheim, a captain in the Hessian army-corps: "This manuscript, which has never been printed, contains part of the Flora of New York, and was composed by a lady, the daughter of the Governor, Cadwallader Colden, well known for his botanical works, and a physician as well. This lady married a doctor of medicine, Farquhar, a Scotchman by birth, and she died soon afterwards. Some of the names are according to her father and according to Gronovius, and some are according to the Brandenburg Dr. Schœpff, who has read this work. The trivial names are according to Linnæus. This work is a remarkable one, because it is that of a lady who possessed such a love for botany that she learned Latin, and, judging by its nature, is so worthy and correct that it contains many, even minute, things." Governor Colden, the lady's father, was the author of *Plantæ Coldenshamiæ in Provincia Noveboracensi Americes sponte crescentes quas ad Methodum Cl. Linnæi sexualem Anno* 1742, etc., which in 1749–1753 was published in the *Proceedings of the Royal Society of Sciences*, at Upsala, as the earliest special contribution to the Flora of New York State.

Under the title of *Dictionnaire Pratique d'Horticulture et de Jardinage*, Monsieur S. Mottet has commenced the publication of a translation of Nicholson's *Dictionary of Gardening*. The value of the original work will be increased in its new form by various changes and additions which the translator promises with a view of adapting its contents to the climate of France and the methods of French horticulturists; and that special parts of the work may be treated in the most authoritative manner possible, and that cultures, especially French, may be properly treated, he has secured the co-operation of such distinguished experts as André, the Vilmorins, Bellair, Legros, Alluard, Dard and Mottet, whose contributions will be signed by the initials of the authors. The work will be completed in eighty parts, each of forty-eight pages, accompanied by a chromo-lithograph, a part being promised each month until the completion of the work—that is, at the end of six years. The price of each part is thirty cents, and subscriptions can be sent to the Libraire Agricole de la Maison Rustique, 26 Rue Jacob, Paris, or to Vilmorin-Andrieux et Cie., 4 Quai de la Mégisserie. The colored plates in the two parts which have already reached us are devoted to a group of Acacias showing flowering branches of four species, and to a group of Anemone fulgens and its varieties. The cuts, which give so much value to the original work, are reproduced in the French edition. Judged by the parts already before us, Monsieur Mottet's publication promises to be a substantial and valuable addition to garden literature.

Recent issues of German horticultural journals report wide and active interest in the proposed displays at the Chicago World's Fair. Meetings called in various places to awaken such interest and make practical arrangements for contributing have been largely attended; and at one held in Berlin, where not only local horticulturists but also those from distant towns were present, almost every person announced his intention of exhibiting. At this meeting the government grant of 10,000 marks for the assistance of exhibitors was voted far too small to cover needful expenses, as these would involve, for example, the immediate dispatch of an agent to remain in Chicago until the close of the exhibition; and it was therefore decided that all expenses in excess of this grant should be shared between the exhibitors. Since last January a committee has been actively at work in Hamburg; the contributions from this place will be particularly numerous; and a special trade-exhibition has been arranged for the month of September. At one time, German exhibitors were discouraged by a report that certain American firms had threatened by letter to withdraw their patronage from German firms should these exhibit at Chicago. But Mr. Mason, our consul at Frankfort, has now made public a telegram received from the director of the horticultural section in Chicago, which declares that there is "no truth in the rumor of a boycott," and has promised to investigate the sources of the rumor, and to recommend that, if such threats have indeed been made, those who made them shall themselves be excluded from the exhibition. Such a punishment would be none too great for conduct of so selfish, short-sighted and disloyal a sort; but we cannot believe that any American horticulturist has indeed been guilty of this conduct.